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A JOURNAL DEVOTED  
 TO BEES  
 AND HONEY  
 AND HOME  
 INTERESTS.

ILLUSTRATED  
 SEMI-MONTHLY  
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No. 10.



IN ADVISING against spraying fruit-trees when in bloom, don't forget that the poisonous spray seriously injures the delicate organs of the blossoms, thus injuring the fruit crop.

AT VIENNA is established a school for bee-keepers, with building and grounds for the same. The chief course occurs June 3-16, with side courses on 10 special days in June, July, and September. Tuition free, limited to 20 students for the chief course.

HONEY contains 20 to 25 per cent of water; nectar, 65 to 80. It is easier to remember that honey contains an average of 77 per cent of sugary matters, and nectar 33 per cent. For every pound of honey stored, the bees must bring in  $2\frac{1}{3}$  pounds of nectar.

STENOG quotes some one as saying that slitting a queen's wings lengthwise will save her beauty and prevent her flying. Wouldn't the workers gnaw off such wings? In any case I shouldn't like it, for I want to be able at a glance to determine whether a queen is clipped.

"DR. DZIERZON, through the invention of the movable comb, became the founder of rational bee-keeping," says the editor of Gravenhorst's *Bienenzeitung*. No, he is not ignorant of Langstroth. Neither do we give Langstroth more credit than he deserves, but we are ignorant of Dzierzon.

DOOLITTLE thinks the argument in favor of painted hives, that bees glue the inside of the hive doesn't count, for the glue cracks apart in such fashion that moisture can escape through it. [I have great respect for Doolittle and his opinions; but I do not think much of his idea of moisture going through a  $\frac{7}{8}$ -in. board, painted or unpainted, bee-glue or no bee-glue.—ED.]

THE POISON of a bee-sting, according to the investigations of Prof. Langer, quoted p. 382, not formic acid. These investigations were made more than three years ago (see Straws,

Jan. 15, 1898), and yet we still hear talk about bee-poison being formic acid. Prof. Cook, in his review of A B C, seems to take it for granted that it is.—See answer to another Straw on this subject.—ED.]

ALEX ASTOR, in *Revue Internationale*, says diurnal evaporation, which is always ignored, is really more than nocturnal evaporation. So when the scales show that the bees have gained 20 pounds since morning, the evaporation through the day must be taken into account, and they must be credited with carrying in 30.5 pounds of nectar. [Probably Mr. Astor is not far from right.—ED.]

THE DRINK BILL of this nation is, for the year, \$1,059,565,787, or \$13.94 for every man, woman, and child. [I believe the drink evil is the worst problem that civilized countries have to contend with, and sooner or later all right-thinking men must line up, either for or against the saloon. So far as I am individually concerned I propose to help fight the saloon through any organized effort that will mitigate this terrible evil.—ED.]

ONE ROSE in September is worth more to me than ten in June; so as soon as the blossom-buds show on the hybrid perpetuals I carefully pinch off every one except one or two of the most advanced on each bush. Then the bush is not exhausted with its June crop, so as to give no roses later. Of course, that will not do for June roses, but their stalks are cut back severely in spring, which makes the blossoms a little later and perhaps a little finer.

PROF. COOK, in *American Bee Journal*, doubts if the tongue has any thing to do with gathering pollen. I don't know whether it has, but I know the A B C is right in saying that the tongue is extended while the bee is poised on the wing, and its feet seem to be doing something with it. I had supposed it was getting honey from its tongue to pack the pollen. Certainly the tongue *appears* to have something to do with gathering pollen. [The manner in which the bees pad the pollen on their hind legs is so deft and sleight-of-hand-like that it is almost impossible to witness the operation from end to end; but it is hard to escape the conclusion that bees use honey in



making these little pellets of pollen. They are always sweet—decidedly so; and without the honey I can hardly see how the pollen could be made to adhere together in so solid and compact a mass as the bee makes of it.—Ed.]

THE ADVICE, not to put hives on a bench much closer than about 6 inches, p. 397, is correct. But the same number could be on the bench with less danger of bees entering wrong hives by having first space between hives 2 inches, the next space 10 inches, then 2 and 10 alternately. [When I visited Dr. Miller two years ago he demonstrated the truth of the statement he has just made. His hives were arranged as he describes in this *Straw*, and yet there was no confusion among the bees.—Ed.]

YE EDITOR, it seems to me, is a little too ready to concede to Prof. Cook that the A B C is wrong in calling formic acid a vegetable acid, p. 402. The A B C doesn't call it so, although it squints that way. It wonders whether the poison is not similar to formic acid or the same, and says it (the bee poison) is probably a vegetable acid. According to Prof. Langer (p. 382) it is vegetable, but not an acid, "a vegetable base, an alkaloid." [Then you think Prof. Cook is wrong. Possibly he would modify his opinion if he were referred to your authority.—Ed.]

THE OLD-COMB discussion has crossed the ocean. One writer calls ten-year-old combs a myth. *Per contra*, *Abeille Hongroise* reports a hive continuously occupied for 133 years! The able editor of *Le Rucher Belge* says a great number of distinguished practitioners carefully preserve their old combs, and that the objection to them is nothing but an old prejudice. [Is it not a fact, however, that when the old-comb discussion crossed the ocean it crossed from Europe to America, and not from America to Europe? That is, is it not true that we are reviving an old problem that has long been settled in Europe?—Ed.]

THAT DARK CLOTHING is decidedly objectionable to bees, Editor Gravenhorst thinks proven by the following incident: With three visitors he was in the apiary, when a dog stirred up a colony. The excited bees pitched upon the lady and gentleman dressed in black, while himself and the lady in white were undisturbed. [I have seen cases where bees would attack persons with black hats when they would not molest those with light-colored head-gear. I have been slow to believe that they recognize color in this way; but in view of the evidence that has been cropping out here and there for a number of years, I am prepared to believe that black, at least, is at times offensive to bees that are not particularly good-natured.—Ed.]

SOMETHING a little out of whack about the advice of Henry Segelken, p. 384. He says it's claimed twice as much extracted as comb can be produced. Expenses for sections, foundation, and shipping-cases far exceed cost of packages for extracted, so a pound of comb costs producer more than twice as much as a pound of extracted. So the New York mar-

ket for buckwheat comb ought to be more than twice as much as for extracted, but he wants the extracted men to change to comb while the market, p. 375, quotes comb at less than twice as much as extracted. [If it is true that twice as much extracted as comb can be produced, then there would be something wrong about the advice given by Mr. Segelken; but I do not think it is true, and under some circumstances as much comb as extracted will be produced. If there is a difference at all, it probably would not exceed a half more, and generally not more than a quarter. Mr. R. C. Aikin once said at a National convention that it was not true that more extracted could be produced than comb.]

But, look here, doctor; you are putting the difference of the cost of packages between extracted and comb a little too high. I should say that packages for comb would cost about a half more if we figure in barrels and square cans. You would have to figure in these large packages because the great bulk of honey sent to market is either in barrels or square cans. I think Mr. Segelken's general statement is true, that it would be more profitable for many bee-keepers to produce more comb rather than extracted honey. If there is any error in the statement it is the error in the relative cost of comb and extracted honey per pound.—Ed.]

MR. EDITOR, you're another. I don't believe I'm a bit wrong "in assuming that a given number of eggs laid by the queen will give the same number of bees" in the circumstances under consideration, p. 380. You say when frames well filled with eggs are given to a queenless colony, only about two-thirds of the cells that had those eggs will be continued to sealed brood. Instead of two-thirds, I don't believe the average will be one fourth. I've known cases in which I think 19 out of 20 eggs disappeared. Queenless bees do that sort of thing. I don't know why, but they do. But we were not talking about queenless bees. You say, this spring when it was too cold for bees to take care of much brood the queens kept on laying, and the bees reared only what they could cover. Exactly. But we were not talking about a time when it is too cold. We were talking about a time when queens would lay 3400 eggs daily, and I don't believe any queen will do that unless the bees are fully able to care for all of them. She may lay eggs just for the fun of it when only a few hundred are required daily; but when it comes to thousands, that's business, and she'll lay no more than are needed. You know you can lift out frame after frame evenly filled and evenly sealed without a vacancy. If some were destroyed the vacancies ought to show. You say we'd be doing well to get half of a hen's eggs hatched into chickens. And you the son of a poultry-fancier! Better come and take lessons of Mrs. Miller. She thinks she doesn't do well unless she gets at least 10 chickens out of 13 eggs. But we were not talking about poultry, queenless bees, nor weak colonies in cold weather. We were talking about colonies with weather and queens that would allow 3400 eggs daily. Now you

figure how many bees ought to be in such a colony. And give proof, if you have any, that the bees destroy *any* eggs in such a colony. [Yes, while it is true that the destruction of eggs in the spring may not be particularly german to the question at issue, yet I introduced it to show that eggs do disappear at certain times, and why not at others? Then how do you know, doctor, that those combs that are filled solid with brood (by "filled" I mean two-thirds full) may not have had some cells filled with eggs more than once? You will remember that brood does not all hatch in the same day. As a rule it will continue hatching out young bees for a week. I can not escape the conclusion that, even during the height of the season, some eggs are laid which do not produce bees. At your next opportunity, weigh the heaviest swarm of bees just as it is taken from the tree. Confine them in a box for a day, and then weigh the swarm; or, better still, weigh all the bees in a two or three story colony occupying and covering 24 frames. If you can find a case where there will be more than 9 lbs. of bees (45,000 in number) I will buy you the best plug hat you can find in Marengo. This is not a bet, because I have nothing to gain, and I do not believe you have either. The real issue is whether a large colony of bees of three stories can have 40,000 to 50,000 or 90,000 to 100,000. I should doubt very much whether you could get 90,000 bees in a two-story hive, half the combs filled with brood and the other half with honey. If you can, go to the store and get your plug hat and send the bill to me.—ED.]



Bees, buds, and blossoms  
Are the order of the day;  
Heaven's clime seems prophesied  
In this month of May.

A writer in the *Australian Bee Bulletin* says, "I have a call for granulated honey, and would have more if I encouraged it, but liquid honey is less trouble to me. If you want honey to granulate, leave the cover off during wet weather for a day or two."

It is greatly to be regretted that Mr. Will Ward Mitchell, who assumed the editorship of the *Progressive Bee-Keeper* lately, was compelled to relinquish the work almost immediately, on account of failing eye-sight. If the good wishes of his friends avail, he will soon recover from what all consider the summit of misfortune—a failure of sight. May his "lines" fall in pleasant places.

That honey from pennyroyal, to which the senior editor refers on page 407, is here, but he is not; hence I take occasion to say a word

about it. It is light amber in color, and is practically invisible when spread on bread and butter. There is nothing about the flavor to suggest the pennyroyal of the North. To me the flavor is just like that of birch candy, which I consider a good recommendation. I shall use it while the present supply lasts.

Relative to the Caucasian bee in its native land, Mr. Fr. Greiner makes the following translation from the *Leipziger Bienenzeitung*:

The Mohammedan inhabitants of Caucasia not only love good horses but also honey, and the wealthier portion of them are often extensively engaged in bee-keeping, some of them owning from 100 to 400 skeps of bees. As might be expected, the hives used by these people differ greatly from ours. The bee-keepers make them themselves in the winter season from willow, basket fashion, daubed inside and out with clay.

As simple as are the hives, so is the management of the apiary, although migratory bee-keeping is the order. In the spring the colonies are moved on heavy wagons drawn by ox-teams toward the river, where the bees find the first pasture. A little later, and before swarming again, they are moved to the bountifully blooming heath (steppe). There are no trees or forests in these regions, and so the bee-keeper makes some kind of boxes out of bark, and places them about for the young swarms to light on. The bees are then easily dumped out and hived in the regular hive.

Practically the Caucasian bee does not sting except in sheer desperation or self-defense; consequently the bees are easily handled, and no protection is needed or used by the Tartar bee-keeper.

After swarming, the bees are moved for the third time, and this time into the mountains. Here most of these skeps become so crowded that more room must be given, which is done by digging a hole under each hive (all colonies are placed directly on the ground, without any floor-board under them). As soon as the fall flow ceases, all the heaviest colonies are brimstoned, and then the honey is sold in the city. Of course, this honey is cheap, yet quite an income is secured from its sale, and bee-keeping is considered a lucrative business.

#### GAZETTE APICOLE.

This journal, a French exchange, gives the following recipe for making caramels, which it pronounces "incomparable." Rose water, 15 grams; powdered sugar, 100 grams; fine honey, 200 grams. Mix and boil, stirring constantly, until a drop of the compound, when cooled, is hard and fragile. Pour out on a buttered or oiled marble slab, and shape the mixture into suitable pieces by means of a teaspoon.

To protect combs from the moth-miller, put them in a perfectly tight box in which are one or two bottles of sulphide of carbon. Stop the bottles loosely with cotton or paper, so as to allow a slight leakage of the drug. The eggs will hatch as usual, but the larvæ will die immediately.

#### AMERICAN BEE JOURNAL.

In the issue for April 25, Mr. York has rendered us a great service in giving us a portrait of Mr. G. Kandratieff, editor of what is probably the only Russian bee-journal. Also quite a sketch of his remarkable life is given as a soldier, musician, and writer. More than any other man he has been the means of introducing modern apiculture into that very conservative country, Russia. He uses and recom-



mends what is here known as the Dadant hive and system. He translated Mr. Bertrand's "Guide to Apiculture" into Russian. These two men are very close friends. It is to be hoped he can make a visit to this country some time.

Prof Cook's talk for the home circle, now running in the Old Reliable, constitutes a most excellent feature of it. They bear largely on the proper management of children, and home conduct in general. All who have Mr. York's paper will do well to read these lines of Prof. Cook the first thing, as they fit one for what follows. Best of all, we know that the writer speaks from experience, and in his daily life is an exponent of what he enjoins.



#### BEE-KEEPING IN CUBA.

Some Remarkable Figures; Unoccupied Fields  
among the Mosquitoes.

BY H. G. OSBURN.

You will remember that, a few months ago, I took charge of this wreck of what was once the finest apiary in the world so far as we could find out. Well, the crop is off for this year. What I have done this winter is only a drop in the bucket compared with what can be done in good locations by one who understands how to work his bees in this stubborn climate.

In the five months past I have increased to 105 colonies; raised 95 young laying queens, and taken a crop of 40,500 lbs. of honey on a range that is supporting at present 1200 hives of bees; or, in other words, within a radius of three miles of this apiary there are over 1200 colonies and we had a cold spring too. But this is 15 000 lbs. short of what it ought to have been; but I shall try to make up for it next winter, as I expect to take 100,000 lbs. of honey from 1000 colonies in three apiaries. I have already 5000 gallons of honey sold for next year's crop, so the reduced price doesn't worry me much. The cheaper it gets, the more we have got to raise in order to make our ends meet.

It may interest some of your readers to know what this apiary has produced in its 15 years of existence. I myself became anxious to know, the other day, so I began to go over my father's old records, and, after running them all up, and those of smaller bee-keepers who have had charge of this place for a short period from time to time, I find that this one ranch has produced almost a million pounds of honey. The exact figures are about 800,000 lbs. I should like to hear from anybody who can show a similar record for 15 successive years. Had I been able to run this ranch during the war, or the winter of 1898, I should

have beaten any record the world has ever seen in the honey line. As it was, there was over 50,000 lbs. taken from 200 hives.

I notice a 69 hive bee-keeper, p. 136, taking some of us old experienced chaps by the neck for not printing a truthful picture of the real state of the bee-industry in Cuba. I do not wish to offend him; but does the man really know what a bee location for 300 or 500 colonies means? Does he know that here the average force of a good working colony is about 10,000 bees, or three million workers, for a 300-hive apiary, or three million drops of honey every half hour, and six million every hour? or from 300 to 600 lbs. every 30 or 60 minutes? Now, from a close observation I have come to the conclusion that 15 blossoms of this bellflower will, as a rule, furnish a bee its load, and some mornings it will not take half this number. Now we see that, in order to furnish our three million workers a load every half-hour we must have 45 million blossoms at their disposal, or 90 million for one hour's work; and for 6 hours' work it would take the grand total of 540 million flowers, or blossoms, to furnish our 300-hive apiary six hours' work, representing 3600 lbs. for the six hours' work. These figures do not include the enormous amount of honey consumed by these 300 colonies every 24 hours. These figures are not very far from correct, as nearly as we can make calculations, for in years gone by we have had to extract from 2000 to 2500 lbs. every day, six days in the week, to keep up with our 500-hive apiary; then there was the honey they stored in the brood-chamber and fed to the brood, which, I think, is about a third of what they gather every day.

Now, if Mr. Luaces knows more about what is required for a large apiary to feed upon I shall feel that my 15 years of practical experience and close observation have not been altogether void of good. I am well aware of the fact that there are hundreds of good locations here yet unclaimed, where 500 and even 1000 colonies can't clean up the range; but, where are they? I can answer this question myself. They are in the middle and along the southern and southwest coast of the island, where nobody but colored people can live, on account of the insects. Then they are almost entirely shut off from communication with any of the large cities. I expect to penetrate some of them next year, and then I can tell the readers of this journal more about the honey resources of Cuba.

Punta Brava, Cuba, Mar. 5.

[Your figures and estimates in regard to the honey resources of Cuba may be and probably are correct; but you have made a strange mistake, apparently, in your estimate as to "the average working force of a good colony" as being about 10,000 bees. From other things you say in this connection I judge you consider this a large force. If so, you are certainly wrong. If you will turn to page 380 you will see that we must place the number of a good colony at anywhere from 40,000 to 90,000; and you have allowed only a little over a tenth of the largest figure; or, in other words, your





"Besides all this, Mr. Brown, foul brood is liable to break out, and we have no foul-brood laws in our State."

"Well, Mr. Fowls, here is my dollar for membership. Glad you called my attention to the matter; and this point about foul brood is important. We need to be in position to do something in case it appears."

Oberlin, Ohio.

[Now that Michigan has recently passed a foul-brood law, Ohio, on the border, ought to follow suit. Our Ohio bee-keepers have talked over this matter a number of times, but so far it has all ended in "talk." In the picture accompanying, the artist intended to represent under the Ohio banner, beginning at the left, Mr. Fowls, your humble servant, and Dr. Mason. The man with a hammer in his hand, behind the legislative anti-foul-brood fence, is supposed to be N. E. France, the father of effective foul-brood legislation. No wonder he looks with complacency on such scenes in Ohio; and no wonder the poor little chaps in Ohio are beginning to be alarmed. But we must quit our "talking" and get down to business, and that means to see that our candidates *before* their nomination for the senate and legislature are favorable to a bill like the Wisconsin measure, for instance. I have already approached some of the candidates for my own district and county. Let's up and at 'em, *now*.—Ed.]

#### YELLOW SWEET CLOVER.

Some of Its Peculiarities.

BY M. M. BALDRIDGE.

I find from experience that sweet-clover seed, no matter how fresh it is, is no exception to the general rule about certain seeds germinating the first season. Only a part germinates, and there may be several distinct crops from one seeding.

Dec. 2, 1897, I planted a row of yellow-sweet-clover seed in my garden, in a shallow trench, and then covered the seed from one to two inches deep with soil. The seed was fresh, having been gathered by me in July the same year. In February or March following, we had a week or so of very warm spring weather, and a fine crop of plants came up. A few days after, there was a big change in the weather, and every sweet-clover plant was killed by frost. In April or May following, another crop of the plants made its appearance; and before the growing period ended they were perhaps 2 feet high. In February following (1898), the hard freeze destroyed these plants—roots included—with just one exception. At one end of the row one solitary stool of the plants survived, and they made a fine growth, and also a good crop of seed. This experiment thus far demonstrated that the yellow sweet clover will sometimes winterkill, and that the plant is a biennial, the same as the white variety, and not an annual, as some writer, whom I can not now recall, has claimed. This stool of plants was

at the extreme north end of the row of the seed I had planted in Dec., 1897.

Well, there came up in the spring of 1899 another crop of plants the whole length of that row, and from the same seed I planted in Dec., 1897, and they also made a satisfactory growth, being from 2 to 3 feet long before cold weather set in. These plants came through the winter in good condition, and in June, 1900, they were in full bloom quite early in the month—from 3 to 4 weeks before the white variety showed any blossoms. I think this row of plants was just passing out of bloom at the time Mr. A. I. Root visited this city and made me a brief call. See GLEANINGS for July 15, 1900, in Notes of Travel.

The foregoing shows three distinct crops of plants of the yellow sweet clover, and I know that only one planting of the seed had ever been made upon that plot of ground. As yet I have seen no sign of the fourth crop of plants, and do not expect to see it; but it would cause me no great surprise should it occur, for I am satisfied that the seed may remain in the soil for 20 years, more or less, and then germinate and grow. And this fact may explain why many who are not bee-keepers have tried to exterminate sweet clover from their premises, and have not succeeded.

St. Charles, Ill., Mar. 21.

#### THE SWARTHMORE SYSTEM OF QUEEN-REARING.

How to Prepare Small Nuclei; a Simple and Effective Plan for Getting Queens Fertilized.

BY SWARTHMORE.

A great deal has been written, said, and done to simplify and cheapen methods for cell-getting, until now queen-breeders have about all that can be desired in an almost perfect system of cellwork, from the egg to the mature queen, her care after hatching, and all that. But cell-getting is not the expensive part of queen-rearing; in fact, it does not represent an eighth part of the work connected with the securing of a laying queen, ready for posting to the customer far or near.

The *great* expense in queen-rearing is that necessary for the proper fertilization of the young queens after they are reared. The queen-breeder, heretofore, has been obliged to tear asunder large numbers of full colonies to form nuclei of a frame or two each to receive the young queens, each in a separate colony for mating purposes only.

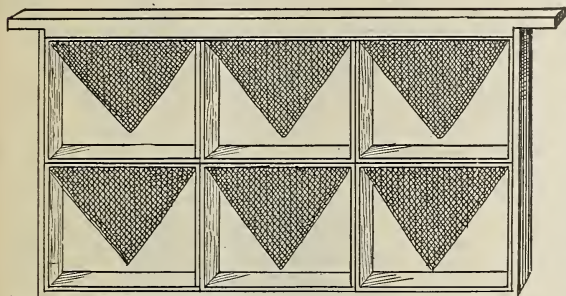
Now, all this is expensive—not alone in bees but in time, labor, care, and a hundred other ways. Full colonies are ruined, and all revenue from bees thus treated is entirely cut off until a laying queen is secured, sold, caged, and mailed. All this woeful waste has set me to thinking about a plan of operation to lessen the expense and labor in queen-rearing at the mating period.

Some years ago I succeeded in mating a number of queens from  $4\frac{1}{4} \times 4\frac{1}{4}$  section boxes, each supplied with a teacupful of bees; but not until the past season have I been able to say that I have discovered a practical meth-



od of mating young queens by the section-box plan, although I have used them now for about 13 years.

The plan I have at last adopted is as follows : Hive a good-sized swarm (natural or forced) into a body containing ten all-wood or Simplicity frames, each frame filled with  $4\frac{1}{4} \times 5\frac{3}{4} \times 1$  inch one-piece plain sections, thus :



FRAME WITH FOUNDATION.

Each section should be supplied with a starter of brood foundation, as shown, and the frames are set rather close together until fully drawn out by the bees. Unless honey is coming in rapidly the bees should be fed constantly during comb construction, in the event of the swarm being a forced one.

In a few days a good prolific queen will have filled the most of these little combs with eggs, and in due time it will be found that each little comb has its supply of brood, honey, and bee-bread—the exact condition necessary for the successful formation of nuclei for queen-fertilization.

At this point take away all the section-holding frames, supplementing them with full-sheets of capped brood, honey, etc., taken from other colonies; put on surplus arrangement, and close the hive. That colony will yet show you honey before the end of the season, even though you have borrowed every particle of their work from the time of hiving. Let them work on; you will not need to molest them more.

Remove the section-holding frames now clear of bees, just as taken from the hive, to the honey-house, and adjust to each side of each little comb, containing brood, a cover made of thin stuff, with  $\frac{1}{4}$ -inch strips nailed all around the edges, as shown at A, Fig. 1. Four small staples, C C C C, driven part way into each corner of the lid, so as to project or telescope into the section box, will serve to hold the lids in place until they have become glued a bit by the bees.

When the lids are all in place, each little comb will be in a compartment by itself, and each com-

partment may be entered by the bees through the perforated zinc that covers the two  $1\frac{1}{4}$ -inch auger-holes in the center of each lid, as shown in the drawing, E E, Fig. 4. The zincs are nailed fast to the inside of each lid. Pieces of section stuff do very well to close the zinc-covered holes when occasion demands (see dotted lines in Fig. 4). A  $\frac{1}{2}$ -inch flight-hole is cut just below the two large holes in one lid only. This is stopped with an ordinary drug-gist's cork, which is easily drawn when queens are to be introduced.

Now run a perfect-winged and sound-legged young virgin queen into each compartment; then recork the flight-holes and expose the zincs on all sides so that the bees can readily enter all the compartments from the sides, yet no queen can leave the compartment in which it is intended to restrict her. Then hang the frames in the hives of such bees as you may have just used in getting a batch of cells, or any

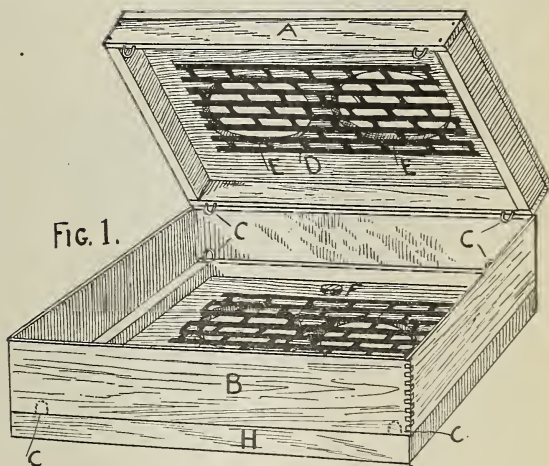


FIG. 1.

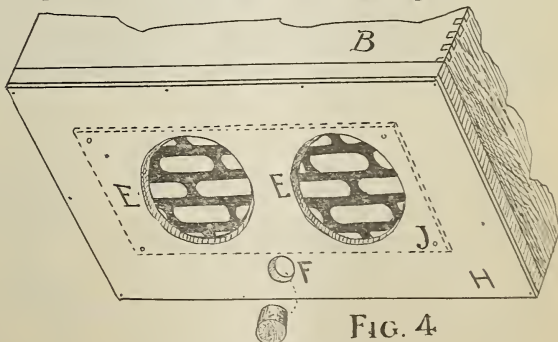


FIG. 4

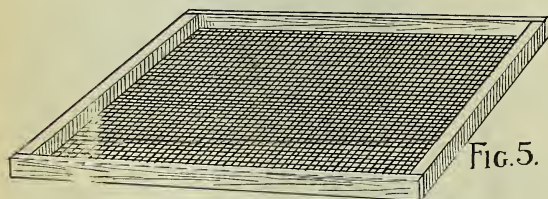
FERTILIZER NUCLEUS-BOX.

A, lid; B, section-box frame; C C C C, hive-staples, for guidance; D, perforated zinc; E, cork in flight-hole. Fig. 4 is a view of the under side of H, showing holes uncovered; B, part of section box; E, E, holes covered inside with perforated zinc; F, flight-hole uncorked; dotted lines show position of thin board when excluder-holes are covered.

queenless and broodless bees you may have at hand. Be careful, however, that there be no sort of queen with them, virgin or otherwise; and if they have been over three days queenless, a little tobacco smoke should be used.

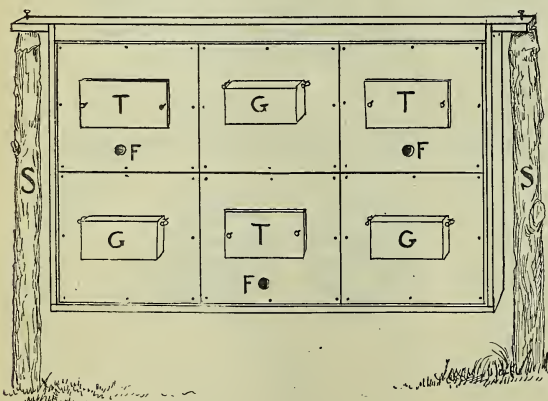
A very simple way of supplying the compartments with young queens is to attach a ripe queen cell to each comb before adjusting the lids; then hang the frames among queenless and broodless bees with flight-holes corked, and zincs exposed. The bees will at once occupy the compartments, and in due time a young queen will hatch inside each compartment.

Any queenless bees will soon enter the compartments, and care for the brood and queens; and as soon as they become settled, feeding may begin. Feed a little sugar syrup (no honey) each day; and at the end of the fifth, if the weather is fine, remove the frames carefully, bees and all. Close all the entrances so none can escape from the compartments. If the weather is very warm, cover the holes on the flight side with wire net, as shown in the engraving, taking in as you do so, as many bees, that may be on the outside of the boxes, as possible.



ALLEY CONFINING-SCREEN.

Take these frames some distance from the old stand, and set them out separately on stakes driven into the ground, thus:

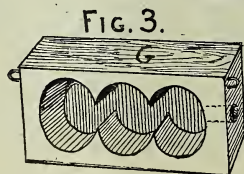
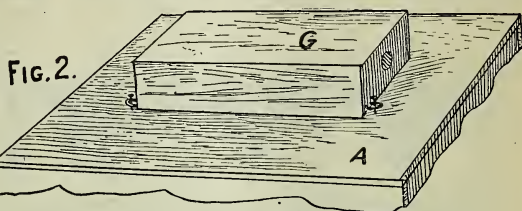


SWARTHMORE'S FERTILIZING-FRAMES, WITH NUCLEUS BOXES IN PLACE.

Toward evening open the flight-hole to each compartment—three on one side and three on

the other, as shown above by the letters F F F. If the next day or two be fine, each and every queen will leave its little chamber to mate, and just as large a percentage will return safely as by any method of nuclei management now in vogue.

The life of these little colonies may be sustained several weeks by feeding lozenges of



TOP VIEW OF COVER.—G, food feeder.

Good food every three to five days. Press the food into the holes at the back of each box. The blocks of Benton mailing-cages may be filled with Good food attached to the back of each compartment by two staples driven into the ends of same and hung on two corresponding wire nails driven into the back lid, as shown in engraving at G, Figs. 2, 3.

Examinations for eggs may be made quite well through the back-most holes, which are easily uncovered by unhooking the Benton cage feeders; and when it is found that the young queens are laying, they should be removed and other young virgins supplied; or the frames may be again collated and placed on a single stand where the laying queens will keep in good health for an indefinite period.

In my next letter, with the editor's kind permission I will tell more about these section-box nuclei; how I manage to run these miniature colonies through the entire season, taking from them several laying queens each during the months suitable for queen-rearing; also how I have succeeded in informing 40 little colonies from one large stock, and successfully mating nearly every queen given to them.

[As I have explained elsewhere, this is the introductory article of a series giving a new system of queen-rearing. This method of having queens fertilized is something we have not yet tried, as it is too early in the season; but we give it in order that other breeders may put the plan to a test at



once. In our next issue Swarthmore will describe a new method of making queen-cups that I believe is original with him; also several other valuable kinks that will come in very good play just now.—ED.]

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RAMBLE 185.

Peculiarities of Central California; Extracting in the State; Strainers vs. Settling-tanks; Importance of Clear Honey.

BY RAMBLER.

"See here, Rambler, what have you stuck this thermometer up here under the shed for?"

"That's a funny question, Mr. McCubbin. I wonder if you do not know the use of a thermometer? Don-cher-know that is to enable me to keep a record of the heat? You

ly so hot, shade-boards are used quite freely. Many are successful without them, and I am coming to the conclusion that the providing of shade-boards anywhere in California is a useless expense. Then you have such little entrances to the hives, barely three inches in length. I should think there would be a congestion of both bees and heat."

"You see, Rambler, that's where my open-work covers and sack honey-board helps the bees to keep the hive cool—plenty of ventilation, and no melting."

"Now, then, Mr. McCubbin, as a precaution to myself, as well as comfort, and to save labor, I suppose you would have no objection to my erecting a sort of pavilion extracting-house under the peach-trees, and right alongside the bee-hives?"

"Not the least, Mr. Rambler."

And it was so accomplished. The pavilion was made as shown in the half-tone—a light



RAMBLER'S COOL RETREAT AMONG THE BEES AND PEACHES; EXTRACTING-HOUSE IN THE BACKGROUND.

said the other day that the temperature sometimes climbed up to 120. Now, I do not wish to be so foolish as to work under such a temperature; then if it *does* get up to 120, I want something reliable to brag about."

"Rambler, that is wrong; you should never mention the heated condition of this valley. Why, if you were in the real-estate business, as I am, you'd never catch the Eastern buyer. Ignore the heat, Rambler; ignore it, and throw that thermometer into the ditch."

"No, sir; I will tie to that thermometer, and I will report every hot day, and the effect upon the bees; but it seems strange to me that no shade-boards are in use in this country. Down south, where we have it not near-

framework, 8 feet square, 6½ in height. The lower half of the frame was covered with sacking, the upper half on three sides with wire cloth. This gave free access to any comfortable wind that might be stirring. The top was also covered with sacking; and, to aid the shade of the peach-tree, leafy boughs from other peach-trees were piled on, making a delightful, shady, and really comfortable place to manipulate the extractor.

I hope the half-tone will bring out these luscious peaches that were on the tree; but, mind you, they were not long there after they became luscious; and, by the way, there are many acres of peach-trees within 200 rods of this apiary, and not a complaint about the



bees injuring the fruit—no Utter here to utter against the bees.

The shady pavilion constructed, another matter caused anxiety. In the southern portion of the State our apiaries are located in canyons, and there is an abundance of uneven ground, so that the tank can be placed below the extractor; and still another drop below the tank, for the convenient filling and removal of the five-gallon cans. Honey runs naturally from one to the other, without waste or daub.

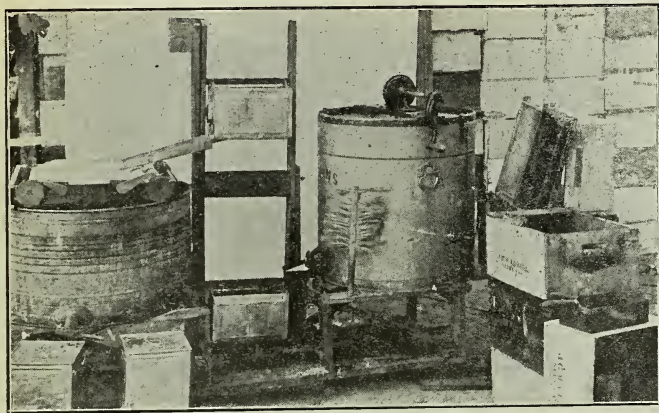
Here in Central California the land is a dead level, and we must put the extractor on a platform, and climb up to it or dig a hole in the ground and get into that to lift the cans out. Neither way is satisfactory, and many use a pail to draw off into from the extractor, then lift it and turn it into the tank; but that is a shiftless method, and not in harmony with neatness and cleanliness. Out of my anxiety

above it, it holds its level position. When the filled can gets to the proper place at the top, the catch drops into a slot automatically, and holds it secure. The empty can has, of course, followed the other end of the revolving framework, and is at the bottom ready to be filled. The spout is adjusted under the gate of the upper or full can, and the gate adjusted so as to draw it off fast or slow as desired. The honey runs into the Rambler's ahead-of-date strainer, and into the tank. While the upper can is losing its contents the extractor is extracting more honey, and the cans are filled, revolved, and emptied *ad infinitum*, or until the crop is harvested. After using it while extracting all by myself nearly ten tons of honey, I am sure I would not discard it for the old dauby way.

And now as to tanks, strainers, and the proper curing of honey. In Southern California, tanks are used holding all the way

from one to six tons of honey. It is seldom that you find a bee-keeper, owning 100 or more colonies of bees, with a tank capacity of less than a ton—probably the average is between the two and three ton tanks.

My observation in respect to the tank question in Central California is limited; but in my immediate vicinity, 30 gallons or less is the rule, while not a few consider a galvanized-iron wash-tub a good-enough tank. One would suppose that where such small tanks are used the more care would



RAMBLER'S HONEY-ELEVATOR, STRAINER, AND SETTLING TANK.

to have things handy, up to date, and a little ahead of date, there was eliminated the honey-elevator shown in the smaller picture.

There is the four-frame Cowan extractor, and there is the tank—i. e., if a thirty-gallon tub can be called a tank. Under the small faucet are the five-gallon cans ready to be filled.

Between the extractor and tank is my non-patented honey-elevator especially adapted for use in a level country. Observe the two five-gallon tin honey-cans, one at the top and the other at the bottom of the uprights. The upper sides of these cans are cut out. They are also provided with screw-cap honey-gates, such as are advertised in A. I. Root's catalog. These honey-gates are set in a little below the level of the bottom of the cans. To operate, open the extractor-gate and fill the can under it. Now grasp the end of the upright that rises above and next to the extractor; loosen a little catch at the top of the upright next to the tank, and revolve that portion of the frame which is pivoted in the large block in the center. The lower and filled can will rise, and, being suspended from the cross-piece

be taken in straining the honey; but the practice is quite the contrary. The honey is run through wire cloth such as we use for window-screens, and almost directly into the five-gallon cans.

A bee-keeper in my vicinity who owns upward of 500 colonies of bees had finished his day's work, had loaded his two frame extractor and twenty-gallon tank and his cans of honey into his wagon, and was ready to depart for his home when I rode up on my wheel. He showed me his day's work and his strainer.

"Well, now, see here, Mr. ———, is there not a quantity of particles of comb and other substances in the honey?"

"Probably there is," said he; and he unscrewed several caps from the cans, and, sure enough, any quantity of those specks were rising to the surface of the honey.

"Oh! well," said he, "I can sell it for as much as you can get for clean honey. It goes to San Francisco, and they mix it with glucose, and what is the difference?"

It does make a difference, though; for recently, in conversation with a gentleman who has purchased a good amount of honey, he



said that he would not purchase such honey. He had had experience in that line, and he said that all of those specks did not rise to the top of the honey in the can, but were mixed with the honey three or four inches down, and before it could be used it was necessary to warm and strain it.

With the large tanks used in Southern California the honey remains in the tank at least 24 hours, many times longer; and, even if the honey is strained, a thick scum will rise to the surface; and when the honey is drawn off, how beautifully clear it is!

The most complete clarifying process I ever saw was in the apiary of J. F. McIntyre. His method has been described in GLEANINGS, but will bear repeating. He strains his honey into a large shallow tank (it is clean from the start). After standing in this a proper length of time it is drawn off into another large tank, and when drawn from this it is honey fit for the most epicurian palate, and, as a general rule, Mr. McIntyre gets a better price for his honey than the majority of bee-keepers.

It would be better to use a large tank, and no straining whatever, than to allow a multitude of specks to run into the can with the honey; for, in the use of a large tank, there would be opportunity for clarifying the honey and skimming off the refuse. The dairyman is compelled to be particular respecting his milk and all receptacles for handling it. Our honey will not sour on our hands as the milk does in the hands of the careless milkman, but there is an aroma to retain; and to retain it in the highest quality requires as clean manipulation as is practiced in the dairy.

This hit-or-miss, careless, slovenish, whack-row-de-dow, git-there-Eli honey-production will result only in a degradation of our product.

Referring to the small cut again, I wish to call attention to the bee-brush resting against the extractor. That brush has seen hard usage through the honey season, and it is a California invention, such brushes having been used here for the past dozen years or more. I use two of them. When one gets sticky with honey, wash it and throw it out in the hot sunshine. It will be dry enough to use by the time the other gets sticky.

[I envy Rambler the pleasure of that shady retreat, even though it be in a climate subject to extremes of 120 degrees. I envy the freedom of any Rambler, providing he is not of the tramp order. I am not sure that I shall see the Rambler this summer, but I am trying to get away; and if so I shall see him and other bee-keepers in California right in the midst of their extracting work.]

Wherever practicable it is always advisable to have the extractor higher than the tank into which the honey flows; but in many cases it happens that both tank and extractor necessarily have to be on the same level. Mr. Coggsall, who extracts so many tons of buckwheat in New York, allows the honey to run into a pail, and then when the pail is full he empties it into kegs; but while I was there the pail ran over once, and I should imagine

that that would be just the trouble where one has to remember to empty. But say, Rambler, suppose you forget to revolve your honey elevator. Can't you somehow make the thing semi-automatic so that, when a can gets to be so full, it will ring a bell so that the operator will know when to reverse the machine?

We have examined your strainer, and believe it to be all right—the very best device that has yet been brought to our notice. We have been planning to catalog it, but somehow it is so hard to get a new thing started and under way; but if I see you I'll study its operation more fully.

What you say about clarifying honey is very timely and important. Too many of the California producers are very careless. Sometimes in car lots one man's fine honey in square cans will be mixed up with another man's very dirty honey. While the honey is doubtless just as good, yet it must necessarily sell at a lower price, or cause "a kick" from the purchaser. This mixing of good and poor lots of honey is apt to knock the price of all honey down to the poorest. They had better cut out your remarks and paste them in their hats.—Ed.]



Pshaw! Dr. Miller, we are not at outs. It is because we do not see exactly alike.

A person devoting his entire attention to queen rearing must necessarily improve his stock or he will lose his trade. His customers are the best judges; and the better the bees, the more orders. The secret, if any, in the matter, is, to get the very best stock to breed from, and continue to get the best stock. I have an idea that the plan outlined in the article referred to will be carried out in California at no distant day.

Well, well! that good-looking enthusiastic Arthur C. Miller seems to be knocking around quite a little in the bee-papers of late—getting the corners knocked off a little too. He will settle down into a steady gait after a while.

An old-time friend, Reynolds, from Merced Co., stopped a few hours with me, and then stayed a few hours more with Mr. McCubbin. We are both baching, Mc and I; and after 24 hours' experience with us, Reynolds exclaimed, "I'm going to get right back to Jane (my wife) as fast as I can go." He got. Mc and I are not dyspeptic—he is.

Those are very good "Hints on Keeping Well," by Prof. Cook, in the *American Bee Journal*. Along toward the end of his advice he says, "Cultivate the habit of conversation at the table." That's all right, Prof. C.; but what is a fellow going to do when he has no one to talk to? But, after all, in the absence of talk I am extremely well—no stomach trouble. I'll tell you what I have that's bet-

ter than talk. It is sunshine, professor — chunks of it all through my system.

This portion of Central California is receiving a thorough drenching to-day, Apr. 29, the first rain of any account for nearly three months. It will help out the newly sown alfalfa and many honey-producing plants.



#### MAKING NUCLEI.

"Mr. Doolittle! I wish to try my hand at rearing some queens this season, and I came over to see if you would tell me something about how I can make nuclei for this purpose."

"Very well. Do you understand how to secure good queen-cells?"

"Yes, fairly well."

"And about a queen-nursery to hatch them in?"

"Yes. I understand this part much better than how to get the nuclei to keep them afterward. Last season I tried to make nuclei, and made very nearly a failure of it on account of the bees going back home."

"Well, bees taken from a colony having a laying queen are quite likely to go back to their old home unless some precaution is used. But if you will make a colony queenless, waiting till they have queen-cells sealed, you will have better success in regard to the bees staying."

"I had not thought of that. How do you manage when you work that way?"

"Six to eight days after removing the queen I go to the colony and remove all the queen-cells but those which look the largest and best, and see that there are queen-cells on five frames, if the colony is a large one and in a ten-frame hive."

"But suppose that the queen-cells are all on one or two combs—what then?"

"Then I cut out a queen-cell from the comb having more than one cell upon it, cutting out a piece of comb with it about an inch in diameter, so as to be sure not to injure the cell. Then I cut out a piece of comb from another frame of the same size as that having the cell on it, when the 'cell-comb' is slipped into the comb or frame where I wish it. In short, I grasp a cell into each comb where I wish them."

"But suppose the queenless colony is one you do not care to raise queens from—what then?"

"This is more apt to be the case than otherwise, and for this reason I start queen-cells from brood from which I desire to raise queens a day or two before I take the queen away from the colony I desire to break up into nuclei. Then at the proper time I destroy *all* queen-cells which the bees in the queenless colony have built, and put one, which has

been reared from the brood I desire, into each of five frames, when the colony is left for 24 hours to become accustomed to the new state of affairs."

"What then do you do?"

"During the next day I place four hives, fitted up with a division-board, etc., ready for the nuclei, and place them where I wish the nuclei to remain during the season; and just at night, allowing me only time to complete the work before it gets too dark to see to work, I take two frames from the queenless hive, bees and all, one of which is to have one of the queen-cells on it, and set two in each of the four hives, thus making five nuclei out of the queenless colony. The one left on the old stand should have a division-board adjusted to its two combs the same as the others."

"Why do you wait till so near night? Is that necessary?"

"Because, if done in the middle of the day the bees are more likely to go back. The change causes them to go to looking over their new quarters; and if it is midday they will often run out of the hive and take wing, only to return to their old home. But in the night they will not take wing, and by morning they become accustomed to their new surroundings, in a new hive having only two combs, and thus when they go out they are apt to mark their new location and stay by their young queen which will have emerged from its cell by this time, if you have timed the matter right."

"Do you think this the best and easiest way of making nuclei?"

"No. I like the nucleus-box plan better."

"What is that? I want the best."

"The box is made as follows: Get out two pieces, 6 inches long by 6 wide by  $\frac{3}{4}$  thick; also two pieces 12 long by 6 wide by  $\frac{1}{4}$  thick. The latter are nailed to the former so as to make a box  $10\frac{1}{2} \times 6$ , inside measure, without sides. For sides I use two pieces of wire cloth, cut 12 inches long by  $6\frac{1}{2}$  wide. One of them is nailed permanently to the box, while the other is left so as to be easily removable by nailing the wire cloth to a little frame like a slate-frame, which frame is lightly tacked to the box. In the top of the box is bored a large hole into which a funnel is to be inserted. This funnel is to be large enough to allow of one of your brood-frames to be shaken inside of it, and the hole in the small end should be 3 inches across, so that the bees will readily pass down through it and not clog. The hole in the box should have something to close it, like a large button or tin slide."

"How is such a thing as that used in forming nuclei?"

"Having funnel and box ready, go to any hive that can spare from a pint to a quart of bees, according to the size of the nucleus desired; take out a frame or frames having bees on the combs (be sure you do not get the queen), and place it on the outside of the hive, or in a comb-carrier. Give the frame several sharp knocks with the thumb nail or a little stick, to cause the bees to fill themselves with honey, and, when so filled, shake as many down through the funnel into the box as you



wish in your nucleus. Take out the funnel and close the hole, when you will put the frame from which you shook the bees back into the hive and close it."

"Well, that is an easy way to secure bees, and a way I never thought of before. But what do you do next?"

"Next, take the box of bees into any room and throw a blanket over it, or darken in some way, when they are to be left three or four hours. At the expiration of this time they will realize their hopeless and queenless condition, telling you the same by their buzzing and running about the cage when you go to them, and be ready to take a queen of any kind."

"But where is the queen to come from, I should like to know?"

"As you said you knew how to raise queens and keep them in a nursery, I will only say that at this time I go to my queen-nursery and get a virgin queen, putting her in a cage having a 'candy cork,' and give them. Attach to the cage a short piece of wire, and you are ready. To put the cage in, set the box down suddenly, so that all of the bees will fall to the bottom, when the hole is opened, the cage put in and the hole closed again, all being done while the bees were trying to climb to the top again. The cage is pulled near the top of the box, and secured there by bending the wire over the button or tin closing the hole."

"Pray tell me what a 'candy cork' is."

"A candy cork is a cork, generally of wood, with a  $\frac{3}{8}$  hole bored through it. This hole is filled with 'queen candy,' which the bees eat out and thus liberate the queen. The greater the length of the cork, the longer it will take the bees to eat out the candy. For this purpose I make the cork about half an inch long, so that the queen will be liberated in about twelve hours, or at some time during the night, as she is generally given about two to three o'clock in the afternoon."

"But you do not do any thing with this box of bees in the night?"

"No. They are left as they are after giving the queen, till near sunset of the next day, except to feed them if they need it, when they are put in a hive as follows: Prepare a hive by placing in it a frame containing a little brood and one of honey, together with a division-board, which are put on the opposite side of the hive from where you wish the bees. Now get the box, in which you will find the bees all compactly clustered like a swarm; carefully remove the movable wire-cloth side, and with a quick jerk dislodge the bees from the box on the bottom of the hive. Now draw the comb of honey, then the comb of brood and the division-board, across the rabbets of the hive, in the order named, to where the bees are, and they will be immediately on them. The hive is now closed, and, if all has been rightly conducted, and works as it should, you will have a fine nucleus in that hive for the whole of the season, with the queen laying nicely in a week. But I must go now, as I have an appointment to meet at our village in half an hour."



#### THE TRICK OF PRODUCING LIGHT COLORED EXTRACTED HONEY; THE EFFECT OF THE COMBS.

One year when the Illinois State Fair convened at my home, Peoria, Ill., I made an effort to put on exhibition a choice article of extracted white-clover honey. With this end in view I exercised the greatest care in selecting the honey, and to have the utensils clean, and free from other honey. I extracted from no comb, unless of the purest white; in holding a comb up to the light, if I discovered a few cells off in color they were not uncapped.

This honey was put on exhibition, along with a large collection from different producers living far and near. It was all white-clover honey, in pint glass jars, and arranged on a shelf in front of a window. In looking at the exhibit, no one would fail to see that mine was the lightest in color, and was given first premium. There was not the slightest difference in color, in all the other honeys on exhibition.

I inquired of the other exhibitors why this difference in color, and they replied, "We thought there was some trick about it." I told them what must have made the difference. It is not at all surprising that they inferred a "trick," as all of the other white clover honey did not vary one point in color. It may make no difference in color from dark combs, when one extracting follows another in quick succession.

MRS. L. HARRISON.

St. Andrew's Bay, Fla., April 3.

[I believe it has been before stated that, in order to get an extra-light-colored honey for exhibition purposes, it is very necessary that such honey be taken from new or white combs. If I mistake not, Mr. R. F. Holtermann, formerly editor of the *Canadian Bee Journal*, was among the first to urge the importance of this. But as a rule the average honey-producer uses combs of all colors and ages for the extracted honey he sends to market. It is possible that, when competition becomes stronger, as it probably will do, it will be best for him to discard the old black combs, melt them up in one of the presses shown in our columns recently, and use, instead, new combs made off from foundation. In spite of what you, Mr. Holtermann, and others have said on the subject of producing light-colored honey, I do not think that very many of the average producers are "on to the trick." As some extracted honey may be produced for the Buffalo Pan-American, it may be well for some of our friends to bear this little "trick" in mind.—Ed.]

#### A CORRECTION; COLLIER'S EXPERIMENTS.

Mr. Editor.—Please correct the third paragraph from top first column, page 245. The detailed experiments of myself concerning

bees and fruit were not conducted at the Agricultural College at all, but they were made at, I think, eleven different locations in the western part of the State. The work was done for the Connecticut Board of Agriculture.

Page 248, G. Collier, Warsaw, N. Y.—Your supposition about the comb following the line of the foundation is, in the main, correct. I have used that plan of putting foundation in the sections on the catacornered, oblique, and in every conceivable improper way, for the sake of having misshapen, malformed sections of honey to exhibit at fairs, and made a grand success of the grotesque production.

Woodbury, Conn.

H. L. JEFFREY.



WE have had no very bad reports of wintering losses so far, that I know of. Colonies themselves, however, as I have already stated, appear to be considerably weakened; but the fine weather the past ten days, and the great number of fruit-blossoms, appear to be making amends for the bad weather and the late spring of a few weeks ago.

IF there ever is a time in the whole year when the absence of a laying queen in a strong colony means a heavy loss to a bee-keeper it is now. Be sure to go over every colony, and see whether eggs are being laid regularly and in sufficient number. Queenless colonies of good strength should be supplied with laying queens from nuclei or some weak stock that has just come through the winter that has only a queen and a few bees. Give these bees a cell, and their queen to the strong colony that needs her.

I HAVE in hand the introductory article of a series that is to be written on the subject of "Bees in Law." The writer will take up the subject of common and statutory law as it relates to bees, and then proceed to give specific mention of various classes of special legislation directly and indirectly affecting them. The important court decisions that have been handed down will also be given. It is possible we may have this put in pamphlet form for the use of the members of the National Bee-keepers' Association.

THE heavy snows in the Eastern and Northern Central States have given the clovers a wonderful start. The snow fell to the depth of one or two feet, and during the quite warm weather it took all of ten days for the last vestiges of it to disappear. This vast quantity of water trickling down every day upon the grasses, clovers, and other vegetation, had a most stimulating effect, and we shall, therefore, expect that, if good weather has any thing to do with nectar secretion early in the season, the clovers will do well this year.

I AM glad to introduce to our readers Editor W. J. Craig, of the *Canadian Bee Journal*. Mr. Craig succeeded Mr. R. F. Holtermann, both in the management of the supply business of the Gould, Shapley & Muir Co. and in the editorial conduct of the *Canadian Bee Journal*. A man of pleasing address, Mr.



W. J. CRAIG.

Craig seems to have predominantly in his makeup the faculty of making and keeping friends. The *Canadian Bee Journal* is well edited, and is in the front ranks of other publications of its class.

#### COMB HONEY VERSUS EXTRACTED.

IN the last issue of GLEANINGS it was advised to turn our attention more to the production of comb honey than of extracted. There remains one thing more to be said in favor of comb-honey production; viz, colonies run for comb are almost invariably in a better condition for wintering than those run for extracted. It would seem that a colony regards the brood chamber and the extracting-super above as its sole domain which is not to be meddled with; and when the fall honey comes in, the same is distributed around with a view of having it on hand for winter use. When we now remove the extracting-super we throw things badly out of balance.

A comb-honey super is apparently not regarded by the bees as a favorable spot to locate during winter; and when preparing their nest it is left entirely out of calculation.

#### HOW THOSE BEES CAME OUT OF THAT MACHINE-SHOP CELLAR, ETC.

ON the 1st, 2d, and 3d of May we took all the bees out of the cellar under the machine-shop. They were in fine condition, and apparently just as strong as when they were put in last fall, about the first of December, but



had little or no brood. They had been confined just about five months. During all this time they were very quiet, and the number of dead bees on the cellar bottom was the smallest I ever saw. Well, now for the results :

Our Mr. Wardell says that those colonies are away ahead of the outdoor-wintered ones of the same strength last fall. The large force of bees has enabled them to take care of large quantities of brood, now that they are outdoors ; and the probabilities are that, when the honey-flow comes on, they will be worth nearly two of the colonies wintered outdoors. We estimate that our outdoor bees lost very heavily during the great storm of April 20—a storm that was a record-breaker, and which will go down in history as one of the heaviest ever known. While the weather was not very cold, yet after the snow had fallen the bees flew out on the warm days following, dropped on the snow, and never got back. Thousands and thousands of bees were lost that way ; but the other bees were housed during this big storm, and were not put on their summer stands till about ten days later.

Ira Barber, in our last issue, recommends putting more bees in the cellar and raising the temperature. Our cellared bees were kept in a higher temperature than any bees we ever wintered indoors ; and they wintered the best, irrespective of the noise above in the machine-shop. But I am afraid that, if the temperature had been as high as Mr. Barber recommends, they would not have fared as well as they did. Nevertheless, we shall test his ideas on a small scale next winter.

#### PROF. COOK'S REVIEW OF THE A B C OF BEE CULTURE REVIEWED, AGAIN.

In the third and last instalment of Professor Cook's review of the A B C, published in the *American Bee Journal*, he has a word more to say about bees dying because they have lost their stings. He does not claim that they die in less than a day or two, the time varying. Bees that had lost their stings from use were put into a cage, and died within a day or two, while others uninjured were also caged, and lived for weeks. With such testimony it certainly seems that it might be well to give the subject further consideration. If bees thus injured were put in the same cage with uninjured bees, it ought not to be difficult to come to a decision.

"I am a little skeptical," says Prof. Cook, "as regards the queen leading out the bees. I would not be sure that Mr. Root was right in his conclusion." The reading of that, without referring to the A B C, might induce one to think that the book taught that it is a common thing for queens to lead out swarms. Of course, that would be incorrect, and it is not taught in the book. The thing that Prof. Cook has reference to is the statement that in one particular case a queen from several miles away was put in a nucleus, and after a day or two the queen led the nucleus back to the hive from which she was taken. Prof. Cook may be right in thinking that, even in this case, the queen was in no sense a leader.

Prof. Cook agrees with the book that swarming depends upon conditions or causes, rather than with Mr. Doolittle, who says the real cause of swarming is the fiat of the Creator, "Go forth, multiply, and replenish the earth."

"I was surprised," says Prof. Cook, "to note that Dr. Miller also gives his authority in favor of bees not clustering in case the queen does not go forth with the swarm. . . . In such cases they will always return to the hive; but in my long experience and observation it will be decidedly the exception and not the rule that they return to the hive without forming at least a partial cluster." Dr. Miller has probably had as long an experience as Prof. Cook, with probably a larger number of colonies, and he is by no means a careless observer. Both men agree that, with clipped queens, some swarms return to the hive without clustering, and that some cluster first. Is it not just possible that the majority of Prof. Cook's swarms clustered, and that the majority of Dr. Miller's did not? But Prof. Cook is certainly wrong in saying, "In such cases they will always return to the hive," for in a large apiary it is unfortunately true that in too many cases the swarm will enter another hive where swarming has lately occurred.

The reviewer notes the error of the A B C in saying "soiling" instead of "green-manuring" when speaking of plowing under a growing crop of turnips. He also thinks turnips are of little value for green-manuring as compared with leguminous crops.

When a colony is suffocated because the hive is too tightly closed, the A B C says the bees are wet by the honey involuntarily discharged. Prof. Cook thinks much of this moisture is caused by perspiration, and he may be right. He says : "In such cases bees try hard to cool off. The only possible way they can do it is by the evaporation of water." That sounds as though evaporation, which is entirely involuntary on the part of man, is voluntary on the part of the bee. Can that be possible?

"Here again," says Prof. Cook, "our author refers to bees separating water from honey while on the wing. I believe this is physically impossible. I have never as yet seen this 'mist' fall from the bees while flying in the air." No doubt there are many who have not seen it, but that does not invalidate the testimony of those who have seen it. "If such mist does fall from the bees," he continues, "it certainly must be the water of evaporation in the air-tubes, or else excreta from the intestines." One can hardly imagine that water evaporating from so small a creature could immediately condense into drops that would fall like water ; but that it falls as excreta from the intestines is exactly what one would understand from the book when it says, "I distinctly saw them discharge from their bodies what seemed to be only pure water."

The A B C says : "There are also known in commerce such as Japanese and Chinese wax, both of which may or may not be the product of insects or plants." Prof. Cook says the

Chinese wax is the product of a scale insect related to the cochineal insect.

"In speaking of the willow," says Prof. Cook, "it is stated that it does not furnish honey, and the late Mr. Quinby is quoted to the same effect. This is certainly not true of all our willows." One is at a loss to know how it is possible for any one so to misread. The author says he has had little or no experience with the willow; but as it does yield honey and pollen in some localities he yields the floor to Mr. G. M. Doolittle, who has had much experience with it, and is, withal, one of the most careful observers. Mr. Doolittle ranks some of the willows, the large growing kinds, as exceedingly valuable honey-plants, the pussy willows that grow in his locality being valuable for pollen alone, in which he concurs with Quinby.

*Angustifolium epilobium*, says the professor, should be *Epilobium angustifolium*, and it is so corrected in the latest edition.

The A B C gives white honey the preference to dark for wintering, but says that, although the dark is a little more apt to give dysentery, it usually does not have that effect. Prof. Cook makes what is no doubt a proper distinction, by saying that buckwheat and other dark floral honey is good, while that from scale lice is unfit for wintering.

In the glossary, *Apis* is given as the family to which the bee belongs, when it should be *genus*, as it is found in the latest edition.

But it should be understood that all these criticisms relate to an old edition of the A B C, and not to the new one out last January, and now offered for sale.

#### HIGH-PRICED BREEDING-STOCK — IS IT RIGHT TO ADVERTISE IT?

It is well always to be on guard against such excitement as shall attach fictitious valuations far beyond the real worth of an article. Many a town site in the West has had its boom when corner lots went skyward in price, and the man who paid his hundreds or thousands for a single lot has seen the price come down, down—never to rise again. On the other hand, there have been cases in which a man has been laughed at for paying what seemed to be a fictitious price for a piece of ground, but who, with very shrewd foresight, has held on to it and made a fortune. A good many things need to be taken into consideration in getting at the actual value of an article. Even in the matter of queen-bees it may be possible greatly to overestimate values, and it may also be possible to undervalue. An editorial in the *American Bee-Keeper* reads as follows:

When a queen-breeder offers as his greatest inducement to buyers to send out queens from a mother valued at 50, 100, 200, 500 or 1000 dollars, he should be regarded with suspicion. If he is not a fakir pure and simple, he is not what he appears to be in the eyes of the honest business world.

According to the dictionary, "fakir" is a slang word which means "one who originates a fake, humbug, or swindling contrivance." It can not be that a man would be considered a swindler who should urge, as the chief inducement for purchasers to order from him, that the stock from which he bred was of

great value. Evidently the thought is that no queen can have so high a value, and that a queen-breeder who claims to have a queen valued at \$50.00 or more is, in the eyes of the honest business world, a swindler. If our contemporary had given the matter sufficient thought to make a proper estimate of the possible value of a queen, it never would have published that paragraph.

When hens' eggs can be had in abundance at 12 cts. or less per dozen, the man who advertises to sell a sitting of 13 for \$1.00 is not considered a swindler. When the average price of a horse is less than \$100 there are a few animals which change hands at prices away up in the thousands; and the men who receive such prices are not considered swindlers. The man who buys such an animal is not considered a swindler if he puts a still higher price upon his purchase, even though he should never sell at the price set. The only question is whether he would rather keep the animal than to sell it at any thing less than the price set.

Queens can be had by the thousand for one dollar each, and many are sold for the half of that; yet it is a common thing to see advertisements of certain queens at much higher prices; and the man is not considered a swindler who has received \$2.00, \$5.00, \$10.00, or more for such a queen. There is no question, then, that a man may be an honest man and sell a queen for more than the ordinary price. The only question is as to the limit beyond which a man may not go without appearing as a swindler in the eyes of the honest business world.

A great many queens are sold at a price of \$5.00 each or more. The man who buys such a queen does not expect to get his money back on it if he uses it as the average queen is used for securing a crop of honey. But by the improvement of his stock he may get back his money many times over. The results obtained from it give it its value. The question is whether such results can be obtained in any case as to warrant a valuation of \$50.00 or more. Suppose a queen-breeder who sells a thousand queens in a year has a queen of such qualifications that he can get an extra dollar for every queen of her stock that he sells. It matters not whether the extra value be in color, length of tongue, working qualities, or what not; if it is what his customers want, and if they are glad to pay the price, he gets an extra thousand dollars in the course of the season, not for extra work on his part, but simply and solely for the value there is in that queen. Suppose at the beginning of the season some one should say to him, "I'll give you \$50.00 for that queen." He might reply, "I get \$1.00 extra on each queen of that stock. I expect to sell 1000 queens this season at that advanced price. If I hold on to her I shall be worth \$1000 more at the end of the season than to let her go and breed from another queen. I should be foolish to take \$50.00 now for the prospect of \$1000 at the end of the season. True, she may die to-morrow; but the chances in favor of her living are such that I should hardly be willing to take less



than a fourth or a half of what she will bring me in extra if she lives. The least I would take for that queen is \$250." And the honest business world, instead of condemning him as a fakir pure and simple, would commend him for his business judgment.

The fact is, that the bee-keeping world is just beginning to wake up to realize something of the value there is in blood. Doolittle has been preaching that the queen is the center upon which all pivots; but year after year the average bee-keeper has been going on, making his increase from stock most given to swarming, hence least given to storing. It is a good sign that attention is awakened in the right direction. We are used to extra values in horses and cows, but not in bees. We hear of a horse being sold for five hundred times the average price, without a shock; but if fifty times the average price of a queen is mentioned, it is another thing. Perhaps queens can not be worth \$25, \$50, \$100, or \$200. I have no quarrel with any one who thinks otherwise. Indeed, I can see how such a person may think he is right; and yet on the other hand I can not see but I am justified in holding the opposite view.

The laurels of our breeder do not rest solely on the long tongues of her bees. But long tongues or no long tongues, she rolled in the honey last year, and is doing the same thing this spring in a way that eclipses every thing else in the yard. Sell her? Why, she is worth many times her weight in gold. She is now three years old, strong and vigorous, and very prolific. She was wintered in a four or five frame nucleus outdoors, and yet she and her bees came through in good order.

#### E. R. ROOT'S WESTERN TRIP:

I HAVE before given intimation that I expected to go to California in the near future. My plans are now all matured, and I start from Medina on the 20th of this month, or about the time this issue will reach the bee-keepers. My route is as follows: Cleveland, Cincinnati, and them to Wetumpka, Ala., where J. M. Jenkins, the southern supply-dealer, holds forth. Then to New Orleans; San Antonio and Uvalde, Texas; Maricopa, Tempe, and Phoenix, Ariz.; Los Angeles, Fresno, and San Francisco, Cal.; Portland, Ore.; Pocatello, Ida.; Salt Lake City, Utah; Grand Junction and Denver, Col.; Omaha, Neb.; Des Moines, Iowa; Chicago, and back to Medina.

I shall be gone about six weeks or possibly two months. From many of the points named I shall make side-trips; and some of our friends must not be disappointed if I do not stay more than an hour or so at a time. In some cases I may not be able to say more than "how d'ye do?" and "good by." In other cases I may stay a day, depending on the train connections. I shall stay, perhaps, a day with J. M. Jenkins; and while in New Orleans I shall be glad to meet some of our friends preparatory to taking the train for the West. From San Antonio I expect to run down to Hunter to see Mr. Louis Scholl; down to Beeville to see the Atchleys, Mr. W. H. Laws, and D. M. Edwards, at Uvalde, Tex. At Tempe,

Arizona, I have an uncle, and also quite a number of bee-keeping friends. Phoenix is a veritable hotbed of bee-keeping, and I shall be in that vicinity perhaps a day or two. From Los Angeles I shall make a number of side-trips. I shall be in the vicinity of San Francisco a short time before starting northward. At Portland and Salt Lake City, and Grand Junction and Denver, I shall make stops for a day or two, taking in short side-stops. Leaving Denver I shall probably hurry homeward, making a visit, perhaps, to our friend Nysewander at Des Moines, Iowa.

Those who desire to reach me by letter can do so by addressing general delivery, San Antonio, Texas; care J. H. Root, Tempe, Ariz.; Union Hive and Box Co., Los Angeles, Cal.; Buell Lamberson & Son, Portland, Ore.; general delivery, Grand Junction, Col.; care L. A. Watkins Co., Denver, Col. I shall have with me three of the best kodaks that money can buy, and I shall endeavor to bring back many interesting views as well as notes of travel.

I can not tell the *exact* dates when I shall be at different points; but I think I shall reach San Antonio about May 24 or 25; Tempe, about the 28th or 29th; and Los Angeles about the 3d or 4th of June. Other dates will be given later.

N. B.—I forgot to explain that I shall attempt to prepare copy and write editorial matter on the fly. Communications for GLEANINGS may be sent to me at the addresses named; or if they come to our general office at Medina they will be forwarded to me. Letters intended for me personally had better be sent to Medina, whence they will be remailed to me.

#### TONGUE-REACH NOT IN DIRECT PROPORTION TO HONEY-YIELD.

ON page 401 I had an editorial on this subject; and in response to that I have received a letter from A. T. McKibben, of Ramey, Minn., that would seem to indicate that in the relative honey-yield there is no difference between the short-tongue and long-tongue bees. He has been measuring tongues, and was surprised to find that some of his "ornery" scrub colonies had a tongue-reach as great as that of his best honey-gatherers. This is the first and only report of this kind that has been received. All the others seem to point the other way; but let's have the reports, no matter what they show.

Another thing, Mr. K. gets a longer tongue-reach by following our directions than we do on the same bees; but in this letter he tells about "stretching" the tongues. This we do not do. We only comb them out straight on the scale. That our measurement is probably correct is shown by the fact that he took a glossometer, or extemporized one, and measured the reach of robbers scrambling for honey. This reach he found to be  $1\frac{1}{10}\%$ . On the same bees he got  $\frac{3}{10}\%$  and  $\frac{2}{10}\%$  by stretching the tongues on the scale. By our method of measuring, and without stretching the tongues, we are supposed to get just what would be secured by the glossometer.



We have made a covenant with death, and with hell are we at agreement.—ISA. 28:15.

As I sit down to write this Home Paper, my conversation with Mrs. Root at the breakfast-table comes vividly to my mind. We were speaking of the bank robberies that are mentioned in almost every daily paper of late. First it is here, then it is there, then it is somewhere else. No portion of our country seems to be exempt. These hardened criminals are either scattered all through the community or else they are canvassing the country to find little towns or other places that promise a good field for their work. If some old farmer who does not read the papers, and is not up with the times, has been foolish enough to secrete a sum of money in or around his home, these emissaries of Satan, by some hook or crook, get hold of the matter. It does not matter how careful the old farmer has been to find a hiding place for his money. It is of no avail. A gang of ruffians sufficient in number to overpower him and all the inmates of the home break down the doors, bind and gag the father, and make him tell where his money is hidden by torturing him by burning his hands or feet until he tells where his money is. Just lately, not far from here, a new scheme in this line (that must have been hatched out in the bottomless pit) is reported. When the farmer refused to tell where his hard earnings of thirty or forty years past were hidden they grabbed his daughter, 19 years old, and—I dare not put it on these pages; but one of them added, "Tell us where your money is and we will let the girl alone." The father still refused. He was probably a sort of miser; but the mother could endure it no longer. She took them down cellar, and told them where to dig in the ground. They got their money and went away.

Bank buildings are being wrecked with tremendous charges of nitro-glycerine. In fact, they do not hesitate to leave the most expensive building in a little town in ruins; and if the people come out and undertake to show fight, half a dozen or more desperate wretches hold the town at bay. Of course, we (sometimes) capture some of them; some of them are shot in the encounter, and our policemen and sheriffs are shot down. But they go to work and build up their town again, get a stronger safe, and put on additional night watches. I fear criminals sometimes get off by some technicality in law, and then go at the same thing again.

In the neighborhood of Medina there has been for forty years a gang of criminals; but I understand that now the last of the notorious Foster gang is in prison. These fellows have been arrested time and time again, and stood trial. But their numbers were sufficient so they brought witnesses in such a crowd they got off almost every time. If the officers

were getting the upper hand of this thing, even though slowly, we might cease worrying about it.

The loss of the people's hard earnings, especially the rural people, and honest, hard-working people who generally reside around these country banks, is a bad thing—yes, it is a terrible thing to think of that there are wretches in this land of ours who are so utterly devoid of conscience or principle that they would want the money that has been saved little by little by sweat and toil. How can these people—how can any one in human form be so heartless and selfish?

But, dear brother and sister, there is something more terrible still than the loss of property or the loss of money, that is going on in our land. For months past a book has been on my table, the title of which follows me like a nightmare. I looked the book over, and said that, although there is a great deal of truth in it, its statements are largely exaggerated. Then I began watching the papers—yes, I began watching our own State of Ohio, and finally our own neighborhood. The very title of this book startles one. It is, "*Traffic in Girls*." Why, the thought is horrible. It is a disgrace to our country. It is a disgrace to the whole wide world to be obliged to admit there is *any* truth in the title at all—that there is really in the United States, as well as in other countries, a traffic in girls.

In my childhood I used to hear about the traffic in colored people. We used to read about the slave trade vessels; we read of human beings being sold at auction; and those of my readers whose hair is white like mine will remember the struggle and fight we had to cast off the reproach that for so many years rested on us as a Christian nation. May God be praised for Abraham Lincoln and the public sentiment that was back of him.

Well, now, let us go back to the title of the book. I fear, dear friends, that the title might have another word put in that would make it still more horrible, and yet the word might belong there. Suppose we put it "*Traffic in Little Girls*." As I think of it my little prayer wells up from my heart, not exactly "Lord, help," but, rather, "May God help us." God help us as a Christian nation to rouse ourselves with such determination and Christian courage and heroism that this thing shall be stopped before it goes any further.

If a man should come into your town with a great club, striking down the little children going to school, killing them, or maiming them for life, would you, after he had done a lot of this work, have him arrested and tried, and then let unprincipled, greedy lawyers get him off by some technicality, or say he is insane? If it transpired, when you came to get right down to the bottom of the matter, that he was a millionaire, and had plenty of money, would the people be content to say his money shall save him? Or, if you choose, after he had served a short time in the penitentiary, would you permit some governor with a heart as foul and wicked as that of the criminal himself, to pardon him out and then let him set to work and do the same thing over again? Perhaps my



illustration is a little strong. But there is one point where I did not make it *strong enough*. Suppose this fiend in human form that I have been picturing should single out all the little girls instead of the little boys; suppose he selects the brightest, prettiest-looking one of the lot; let us suppose, still further, that he inquired around and found one beautiful little girl whose mother is a widow, and had no grown-up brothers to take her part. Suppose he should exult with fiendish glee in striking down this little girl and mutilating and crippling her for life, and then laugh about it, and, may be, brag about it, and try to get off scot free. Why, dear friends, this is an awful story I am telling—a horrible thing I am picturing; and yet God knows it is not *all* of the truth. What I am coming to comes about in a different way, and people say, "Oh! he did not intend to do her any harm. It was unfortunate and unlucky all around." My natural disposition would prompt me to say it was unfortunate and unlucky all around that the wretch was ever permitted to live one hour in this beautiful world of ours.

Once while off on my wheelrids I was told I could save some travel by taking a path through the fields. On my way I met the daughter of my friend the bee-keeper, a beautiful child of ten or eleven years. I shook hands with her, and told her who I was. Then she seemed to feel somewhat acquainted, because she had read GLEANINGS. She was very prettily dressed, and, of course, a little shy at meeting a stranger off alone; but the innocent, childlike look on her face followed me for hours. She was just coming out of childhood, and getting a glimpse of womanhood. She was looking out into this great world of ours full of people, with trust and confidence. Her little heart was good and pure, and with childish trustfulness she no doubt believed this great world to be good and pure. Since then I have met the daughters of other bee-keepers. If there is any thing in this whole wide world that should rebuke sin, and prompt a bad man to turn from his evil ways, and to be pure in heart and honest in deed, it seems to me it is these pleading childish faces—the faces of the *little girls*.

When up on my ranch in the woods last fall I took a walk of two miles one morning. It happened to be toward the schoolhouse, and just about schooltime. Three or four little girls came out of their homes, and I talked with them. They told me about their school, their teacher, their homes, and about their neighbors. Why, in that walk of two miles we became so well acquainted that I felt almost sorry when we reached the schoolhouse. Their childish voices were to me like the music of singing birds. In their innocence they told me some things about their homes and about their neighbors that perhaps an older person would not have told. They *trusted* me. They believed I loved little girls. I need not go any further. Is it indeed true that there are wretches in our land who would take pains to become acquainted with these little girls just in order that they might not only crush and disfigure their little bodies,

but that they might crush and disfigure them, *body and soul*? You may say this thing is done only in big cities. Well, I will grant that it is *mostly* done where there are saloons or frequenters of saloons. I need not tell you that, when a saloon gets to doing a fair business, they must have gambling-devices to help them along. After they get the gambling devices, then there is a dance house in the back part of the saloon; and these dance-houses, to be attractive, must have girls—not women who are hardened criminals like the men who employ them. They must have innocent-looking country girls if they can get them. Yes, they offer *big prices* for them.

Some have told me that this is not so bad, because they bargain with the girls themselves, and the girls consent to this traffic. And this brings up a chapter of the book of which I have been speaking—the "age of consent." By the way, that word "consent," used in the connection I have just mentioned, always roils me up. Through the work of the W. C. T. U. (thank God) the age of consent has been raised. In some of the States, if the girl is over twelve years of age her consent clears her betrayer. Alabama has got it the lowest of all—ten years. New York and quite a lot of others have got it up to eighteen. Ohio (and I say it to her shame) still holds to fourteen. A pamphlet comes with the book, in which is the following statement, together with an advertisement of the book:

There are 300 000 "felled" girls in our country, one-half of them from Christian homes or Sunday-schools, and three-fourths from country homes. They have been gotten into haunts of shame through the trickery and wiles of those engaged in the "traffic in girls," which is caused by the *traffic in drink*. Their average life is *five years*. Sixty thousand girls dragged down to this life every year; 5000 every month; 170 every day, or a young life blasted in our blessed land every eight minutes! Father! Mother! *Your little girl is not safe*. Read that startling book, "Traffic in girls, and Work of Rescue Missions" and warn her in time. Price only 30 cents by mail; cloth, fully illustrated, 75 cents. All proceeds for mission work. Address CHARLTON EDHOLM, The Temple, Chicago.

I do hope and pray that this book may be widely read throughout our land. People are waking up, thank God. The case I have twice alluded to, that of Jennie Boschiter, of Paterson, N. J., illustrates it. If these fellows serve out their full term, two for 30 years and one for 15, well and good; but I begin to tremble already for fear some governor, who may happen to be a man like themselves, will pardon them out after they have served only a very small part of their sentence. In regard to the statement that these things exist only in the large cities, if we look about us we shall find the same thing, only perhaps in a different form, in almost every neighborhood.

Years ago a poor woman on her deathbed implored me to look after her fatherless children. She was then many years a widow. I tried to watch over them; but in spite of all I could do—perhaps I had better say, however, in spite of all I *did* do, and I made a big row several times about it—an unscrupulous and designing man, and a married man at that, succeeded in getting a beautiful little girl away from her friends and home. He spent months if not years in carrying out his scheme,

and declared again and again before God that he was honest and true, and would not harm the child for the world. I listened to others, and tried for a time to think that he was honest and sincere in what he said; but before the end came he admitted to me he was getting a divorce from his wife as fast as the law would move along, and then he was going to marry the child. Some people would object to me calling her a child at the time she went away from here; but the beginning of the whole disgraceful affair was when she was only a trusting and confiding child, such as I have described.

Now, dear friends, it would hardly be in keeping with my profession as a believer in the gospel of Christ Jesus if I let this matter drop right here. Jesus, when here on earth, taught us there was not only redemption and pardon for these poor lost girls, but redemption and pardon for the author of and leader in their sin and ruin. Sometimes when speaking of the sin and crime of this new century, my conscience has troubled me because, as memory carries me back, I can see a finger pointing to the time when the writer of these same Home Papers was little better, *in heart*, than some he denounces so vehemently. Some great and good man once said, as he pointed to a drunken sot in the gutter, "But for the grace of God, there lies myself." And, dear friends, as I look back, honesty and truth compel me to say that, but for the grace of God and the love of Christ Jesus, your old friend A. I. Root might have been—God only knows where. But still I shall have to confess my faith wavers when I think of reclaiming and reforming such wretches as I have described. May God help me, when I pray, to pray with more faith for those who seem to be lost through Satan's wiles.

Let me emphasize, in closing, the point made in that extract I have given. The traffic in strong drink is at the bottom of all this. The papers have told us how this traffic in our new possessions has led directly, in a very short time, to a traffic in human beings—yes, and I fear not only to a traffic in girls, but to a traffic in *little* girls. When African slavery reached a point in the United States where the people would stand it no longer, there was a great revolution, and we at once and for ever threw off Satan's yoke. We are fast approaching the same state of affairs in regard to the traffic in strong drink. Our local option bills here in Ohio have been again and again defeated when the voice of the people was in a large majority in favor of the bill; and I believe the time is near at hand when the people will rise and unite as they did in slavery times, to throw off this yoke imposed on us by drunken or drinking legislators and senators. May Good speed the day.

Objections have been frequently made that it is better for children to know nothing about these things. I do not agree with this. Thousands upon thousands of children might have been saved had they known in times something of what I have been telling you in this Home Paper. If their fathers and mothers will not tell them and warn them, let them read it in

the papers and journals. I for one shall be glad to have every child ten years of age or more, who cares to read what I have written, read it. Our own boys and girls were all taught by their father and mother, after they were old enough to be in danger of having their young minds poisoned by having the matter presented from a wrong standpoint instead of the right one, by some one who does not care for their future welfare as the father and mother do.

What I have written above refers to this traffic in the United States. The papers are just now informing us that the traffic is opening up, both in the Sandwich Islands and in the Philippines, and that, too, under a sort of sanction of this government of ours. Yes, the United States government that proposed to Christianize and civilize these heathen lands is, in one sense, in partnership with the men who barter, not in African slaves, but in *girls* of every nationality. Their excuse is, protecting the soldiers from contagious diseases—the same excuse these men offered for continuing the sale of beer to the soldiers (to keep them away from *worse* places). What a tremendous compliment we pay the manhood and Christianity of our soldier boys when we claim they *will* have beer in spite of us!

Well, our great generals have decided, we are told, that sanitary measures must be enforced to protect our soldiers; therefore these women and girls, after examination, have a permit from the government of the United States—I think I have got it right—to continue their traffic. They pay so much a month for this permit; and these great generals defend the traffic by telling how much *money* it brings into the treasury of the government. In the Sandwich Island they have put a high fence around a certain part of Honolulu. I would not dare to print the rules and regulations, more than to say that one of them is that boys under age can not enter the inclosure. Another is, that no girl under 16 years of age will be permitted to occupy one of the—I was going to say *buildings* inside of the inclosure, but I guess I had better call it a "stall." A girl too young, generally speaking, the world over, to trade off her doll-baby, or any of her other childish treasures, is permitted by this government, under God's blue sky, to sell herself, soul and body! A great string of names in the form of a petition from the Young Women's Christian Association of the United States has been sent to President McKinley, pleading with him for humanity's sake, and for the sake of the women under the stars and stripes, and for *God's sake*, to use the authority that is vested in him to at once and for ever put a stop to this part or partnership that this government has in this awful traffic. Now, father and mother, brother and sister, every one whose eyes meet these pages, let your prayers follow this petition; and let us each and all, by every act in our power, put down this growing traffic as we put down the traffic in African slaves through the pen of Abraham Lincoln, who died a martyr because he was not *afraid* to take the lead.





#### FLORIDA TRAVELS, CONTINUED.

The town of Miami, at the terminus of the East Coast Railway, is a very new one. It has been almost all built up within two or three years. It is very prettily laid out, has fine streets, and, like all the rest of these Florida railroad towns, is especially adapted to wheeling—that is, if you do not get too far away in the country. When people were talking about the danger of frost six years ago we were told the only really safe place was Biscayne Bay, where even tomatoes could be grown the year round without any fear of injury, no matter what the state of affairs was in the northern part of Florida. I had quite a notion of making my way over to Lake Okeechobee, and making an effort to see if I could not get a passage through to Fort Myers, on the Caloosahatchie River. But I was told by the people that it was a difficult and hazardous undertaking for even a middle-aged man in good health, when used to roughing it. Besides, it would take more time than I could possibly spare, so I reluctantly gave it up.

A little way out of Miami is a celebrated golf ground. It is a beautiful meadow, as fine as a lawn, covering, I should judge, toward half a square mile. This is maintained and kept in trim exclusively for golf players. I do not know much about golf; but it has this in its favor—it takes open air and a lot of it. I saw the golf-players with their kit of tools—that is, if that is what they call them, with their colored boys to carry said tools and wait on the players. I suspect it is a rather aristocratic game. But just beyond the golf ground I caught a view of acres of garden-stuff, and this interested me more. I was about to obey the printed sign-board at the entrance of the golf ground, and wheel around it; but the obliging watchman told me to go straight through the ground. He said there was nobody there at the time, and it would not hurt the walks a particle; in fact, it would make them better to run the rubber tires over them. I demurred a little at taking my chances of being arrested, but he assured me he was "boss and all hands" when there were no players around.

I can hardly take space to tell you about all the beautiful crops I saw in that garden on the Miami flats. The ground is a level piece of prairie, I should call it. It probably had been swampy before ditches had been put through to carry off the water. There were acres and acres of tomatoes, all the way from little plants clear up to ripe fruit. The best plantations are trained on stakes; but as it was quite an additional expense, there was a difference of opinion as to whether it paid or not. Almost every vegetable known was grown here for the Northern markets, unless it is some that, like asparagus, rhubarb, and

others that absolutely require freezing weather.

When out in the fields away from any residence or workmen I saw beautiful strawberries reddening under the tropical sunshine. It was a variety I could not exactly make out, and I longed to taste them; but even though nobody was in sight I concluded I would not set a bad example—well, a bad example before *myself*, if you choose. But a little further on I stopped at the house and obtained permission to sample the berries, promising to take not more than half a dozen. The proprietor was away from home; but one of the boys smilingly took the responsibility of giving me permission to pick so many, and the quality I found fully equal to berries raised north.

Now, in these Miami gardens there are good, bad, and indifferent crops of almost every kind. Some will tell you the ground is not suited for this, that, and the other; but before I got around, somebody had proven that the very thing in question could be grown to perfection. It was the old story over again—the successful man had studied his crop and his locality, and finally, by dint of repeated trying, he had found out just *how* to manage to grow beautiful strawberries, or this, that, and the other, even on that low level ground.

I was pleased with the ranch of Jordeau Brothers. They had succeeded in growing bananas, oranges, and cumquats, right side by side with corn, beans, and potatoes. In fact, they had got good crops of almost *every thing*. Up in front of the pretty little home was a bulletin-board, and on this board were tacked market quotations from New York, and also orders received for certain stuff. Any one of the employees could see by glancing at this bulletin-board that so many crates of cucumbers, tomatoes, and strawberries were to be loaded up and sent to the station by just such a time in the afternoon.

Although there is no drawback in the way of frost in this Miami region, they have blight, fungus, and noxious insects to contend with. I reached town just in time to hunt up another nice pineapple for my noonday meal, and then I started out to see where I could find some bread and butter to go with it. Now, there is one queer feature about these Florida railway towns, especially in the vicinity of the great hotels. There are very few restaurants or low priced eating houses. I do not know whether the hotels have been instrumental in keeping them out or not. In two places in Miami I saw bright new signs hung out, saying "Restaurant" in large plain letters. But one of the men had quit business. The other man was running a tailor shop. I pointed to the signs, but they said they had not had time to take them down. Finally, down by the boat-landing, I found some beautiful white bread and nice butter to match, and I was happy and contented with a dinner that cost less than 25 cents. In the outskirts of Miami there is another palatial hotel. The grounds and the surroundings make one think of the oriental tales of the Arabian Nights. I found a similar display of tropical and exotic plants, one shaded house being devoted

exclusively to all kinds of ferns, and at another spot a garden devoted to every thing in the way of cacti. All these beautiful things are free to the tourist, whether he patronizes the hotel or not; and I for one feel grateful to the millionaires for this sort of entertainment for everybody, without money and without price.

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